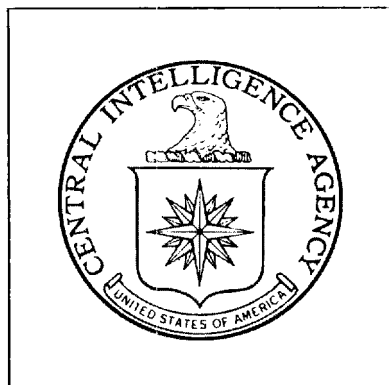


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DIRECTORATE OF  
INTELLIGENCE

Declass Review by  
NIMA / DoD

# *Imagery Analysis Report*

Nadvornaya Petroleum Refineries

Nadvornaya, USSR

48-37N 24-35E

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DDI/IAR 85005

DATE JULY 1967

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NADVORNAYA PETROLEUM REFINERIES  
NADVORNAYA, USSR

JULY 1967

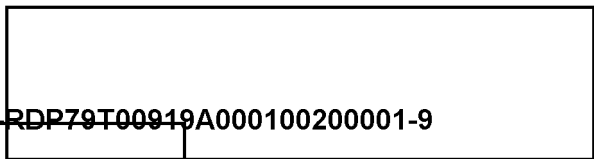
SUMMARY

Two separately located, but probably associated petroleum refineries are located at Nadvornaya, USSR (Figures 1-6). The older and smaller of the two installations has not been noticeably changed

The newer of the refineries is being significantly enlarged in both area and function at the present time.

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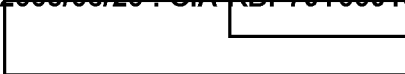
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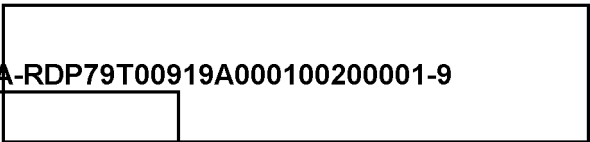
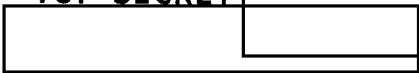
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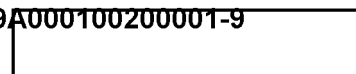
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## INTRODUCTION

Neither of the refineries at Nadvornaya is listed in the Basic Encyclopedia; therefore, in this report they shall be referred to merely as Refineries No. 1 and No. 2 (Figures 1-6).

Refinery No. 1, which is the older of the two, is located approximately 0.75 nautical mile (nm) south-southeast from the center of town at 48-37-10N 024-34-40E. The installation occupies an irregularly shaped area of approximately 65 acres.

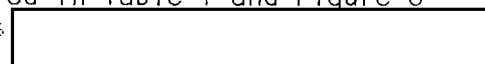
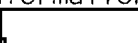
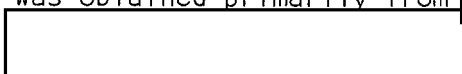
Refinery No. 2 is located approximately 1.1 nm east-southeast from the center of town at 48-37-45N 024-35-50E. The facilities at this refinery are being expanded at a rapid rate and will probably occupy an irregularly shaped area of approximately 600 acres when the present building program is completed. This expansion program will increase the [redacted] area of the installation by approximately 40 percent.

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A functional breakdown of the refinery areas and general analyses of the facilities in each area are presented in Table 1 which is keyed to annotations in Figure 6. Information presented in Table 1 and Figure 6 was obtained primarily from [redacted] missions [redacted]

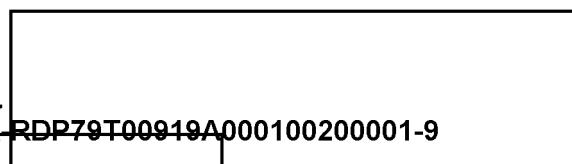
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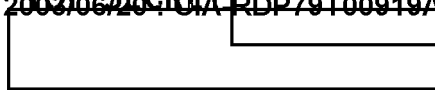
Area measurements of the two refineries have been made by CIA/IAS.



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## PRODUCTION AND CONSTRUCTION ACTIVITY

### Refinery No. 1

The basic function of this installation is probably to serve as a primary refinery to process raw crude oil into feed stock for the larger Refinery No. 2, which is located approximately 1.0 km to the northwest. Heavy truck activity observed on [redacted] coverage in the separately secured storage and shipping area (Area C, Figure 6) would indicate that this refinery also produces some fuels for local consumption. All photo coverage [redacted] indicates that this plant has been in full operation.

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No indications of expansion in facilities or new construction at this installation were observed on any of the missions studied.

### Refinery No. 2

The principal products of this refinery at the present time are probably gasolines, fuel oils, and gases produced by the cracking and reforming of feed stocks and crude oils. The areas of new construction include a probable lubricating oil plant and a possible petrochemical plant which would greatly increase the types of products finished at this refinery (Figure 6).

The new plant areas were probably surveyed and fenced during the time period [redacted] (Figure 2), and major construction was started [redacted] (Figure 3). No detailed chronological study of the construction was made for this report, but such a study might be of value upon completion of the building program.

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On all photo coverage studied [redacted] at least one or more of the areas in Refinery No. 2 appeared to be in production. This would indicate that each particular area could function independently and was placed on steam as construction was completed. Heavy rail activity was noted within the plant on several of the missions studied.

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TABLE I

KEY TO ANNOTATED AREAS AND FACILITIES  
ON FIGURE 6

<u>Area Annotation</u>	<u>Functional Area</u>	<u>Facilities</u>
<u>Refinery No. 1</u>		
A	Refinery Area	3 probable fractionating towers 1 steam plant 1 pipe furnace Approximately 10 support buildings 5 small, cylindrical storage tanks 7 horizontal storage tanks, possibly pressure-type
B	Storage and Shipping Area	2 large and 15 medium, cylindrical storage tanks Approximately 6 support buildings
C	Separately Secured Storage and Shipping Area	1 medium, 5 small and 1 possible small, cylindrical storage tanks At least 4 support buildings
<u>Refinery No. 2</u>		
D	Possibly Associated Support Area	At least 5 buildings and a rail spur
E	Administration Area	2 administration buildings 3 support/research buildings 1 water tower with 2 small control/support buildings

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Area AnnotationFunctional AreaFacilitiesRefinery No. 2 Cont.

F	Area for Expansion	2 buildings 2 medium, cylindrical storage tanks 1 base for storage tank
G	Catalytic Cracking Area	1 reactor and regenerator 2 possible catalyst hoppers 1 possible fractionating tower 1 pipe furnace At least 5 support buildings 2 medium, 10 small and 1 possible small, cylindrical, feed and process storage tanks
H	Fractionating/Thermal Cracking or Reforming Area	2 large fractionating/thermal cracking units with associated heat exchangers and a cooling/waste pond 3 pipe furnaces 1 multi-step roofed building 2 medium and 8 small, cylindrical, feed and process storage tanks
I	Area for Expansion	Open storage - possibly building supplies
J	Products and Crude Oil Storage Area	7 support buildings and 1 under construction 26 large, 5 medium and 5 small, cylindrical storage tanks Rail siding with loading facilities
K	Support/Shipping and Packaging Area	4 warehouses with rail sidings 2 laboratory/processing buildings 1 possible processing building with high end bay

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Area Annotation

Functional Area

Facilities

Refinery No. 2 Cont.

		2 small support buildings 4 small, cylindrical tanks with 1 support/control building and rail side facilities 5 horizontal, pressure type, storage tanks 2 small water treatment basins with 2 support buildings
L	Unidentified Processing Area	8 possible scrubbers/towers and other items of unidentified equipment. At least 5 support buildings 4 medium, 5 small and 1 possible small, feed and process storage tanks 6 small, blimp tanks
M	Probable Lubricating Oil Area - Under Construction	1 large pipe furnace and possible de-waxing and solvent extraction equipment. 11 processing and support buildings 1 building and 4 probable buildings under construction 2 medium and 3 small, cylindrical, feed and process storage tanks Approximately 20 small, products storage tanks/tank bases in various stages of construction 1 possible flare tower Rail sidings and handling facilities
N	Heat and Power Plant	1 boiler house-generator hall building 1 cooling tower 6 support buildings

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Area Annotation

Functional Area

Facilities

Refinery No. 2 Cont.

		2 settling basins 1 water treatment pond 1 small and 3 possible small, liquid storage tanks 2 possible, large, buried, storage tanks Power substation outside of plant area
O	Water Treatment Area and Area for Expansion	1 building 1 flare tower 6 small, cylindrical storage tanks 2 large settling basins 1 small water treatment pond
P	Possible Petrochemical Area - Under Construction	4 buildings and several foundations and buildings under construction 3 large, cylindrical storage tanks At least 15 storage tanks/ tank bases under construction
Q	Settling Basins	1 possible small support building 4 settling basins

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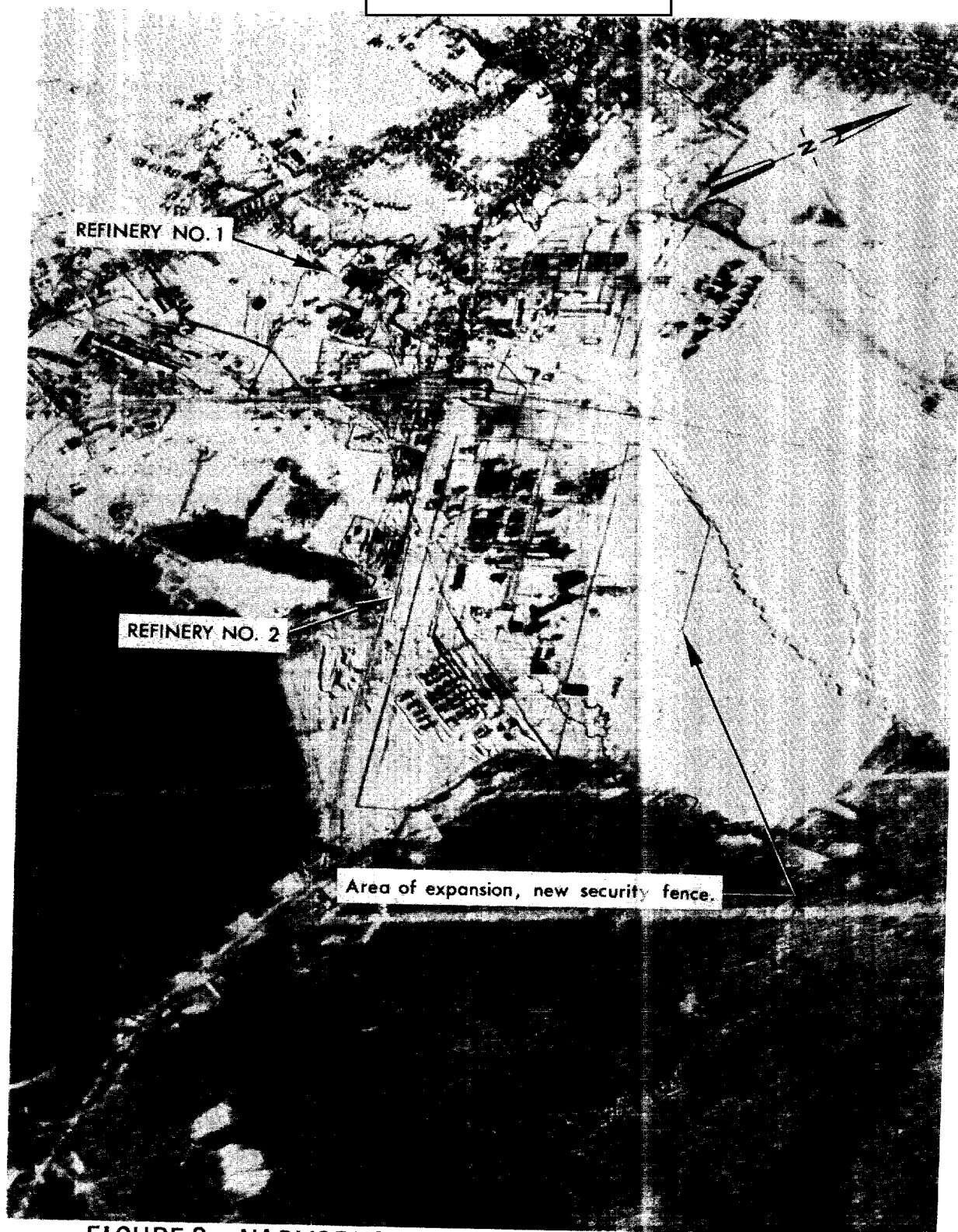


FIGURE 2. NADVORNAYA PETROLEUM REFINERIES, USSR

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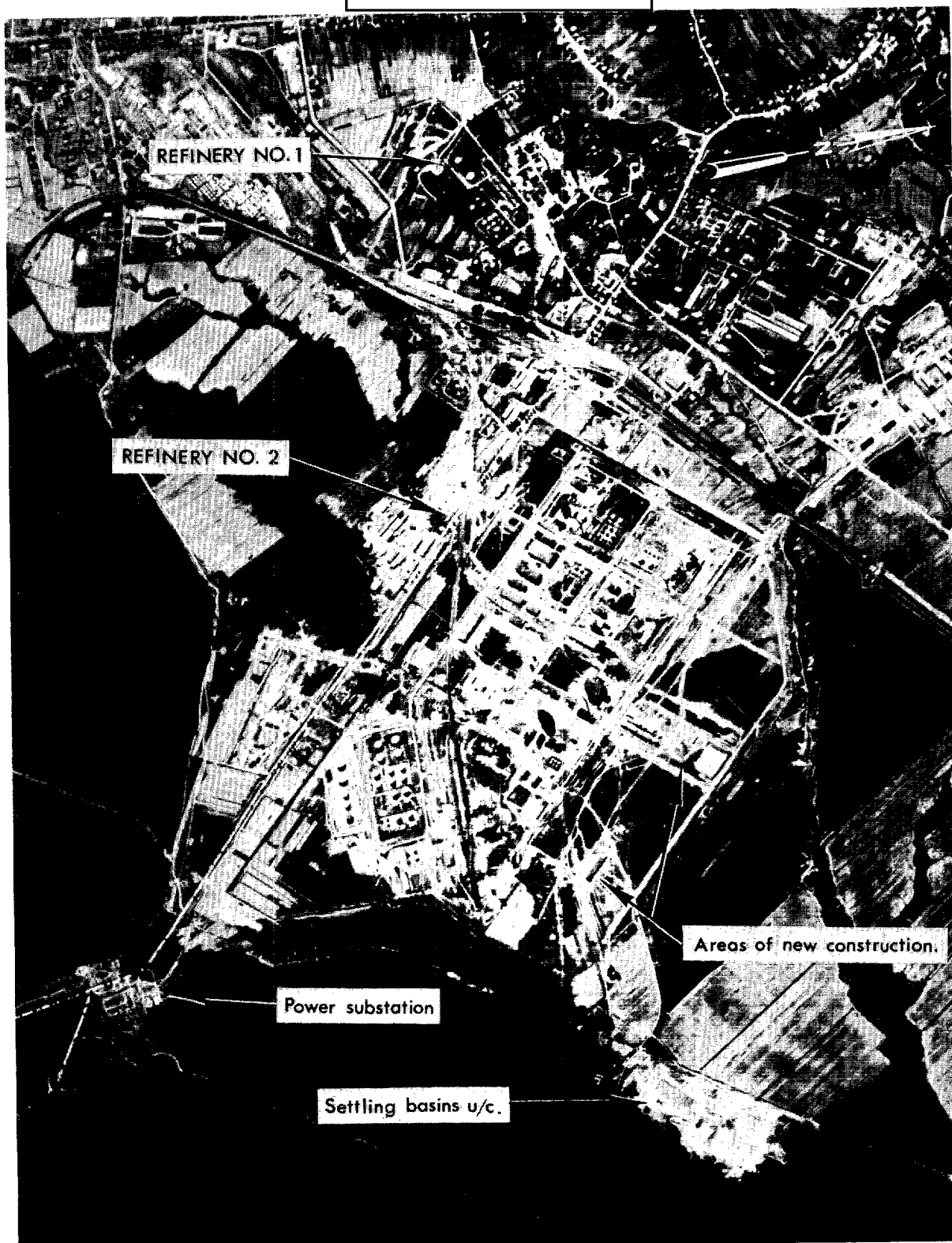


FIGURE 3. NADVORNAYA PETROLEUM REFINERIES, USSR

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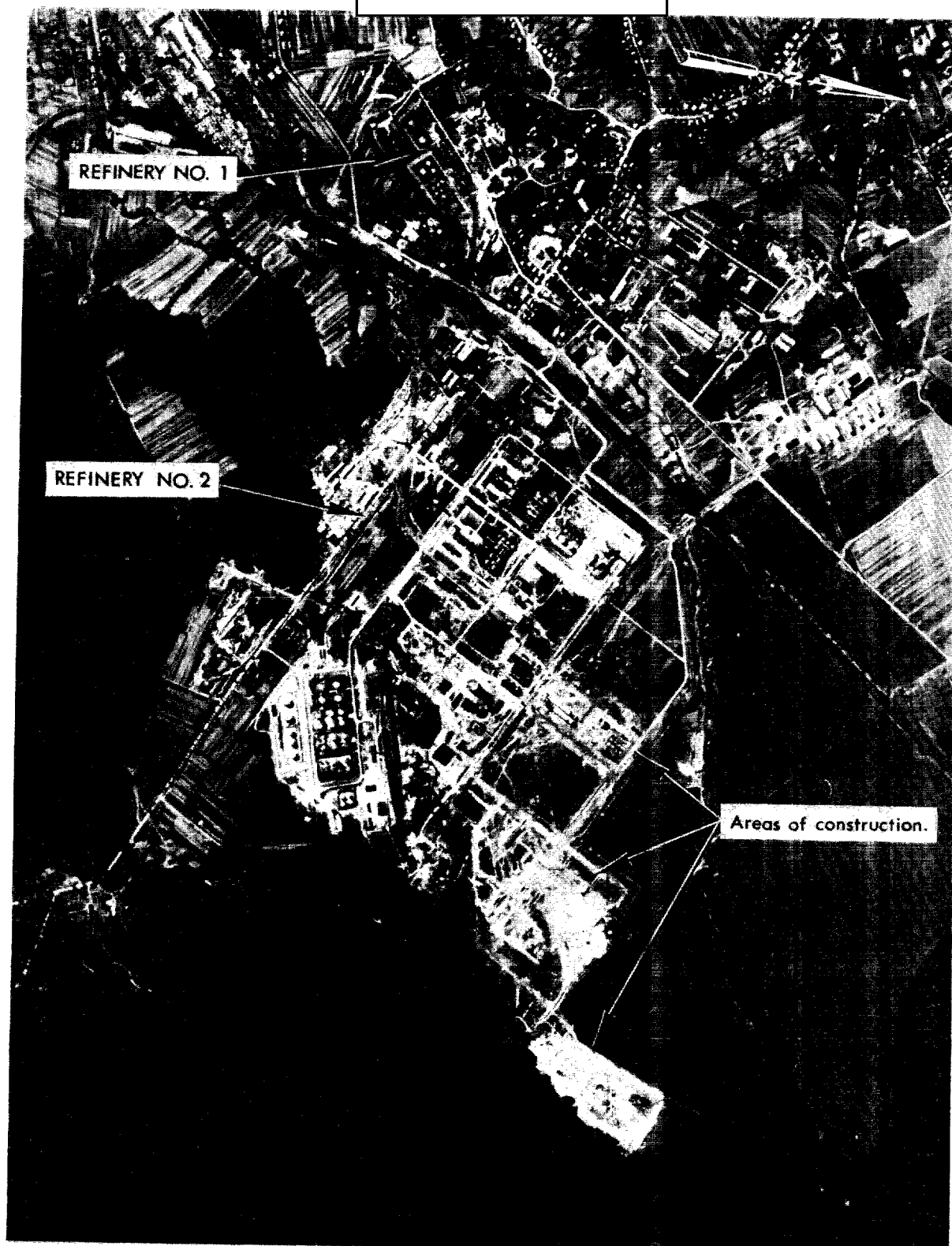


FIGURE 4. NADVORNAYA PETROLEUM REFINERIES, USSR

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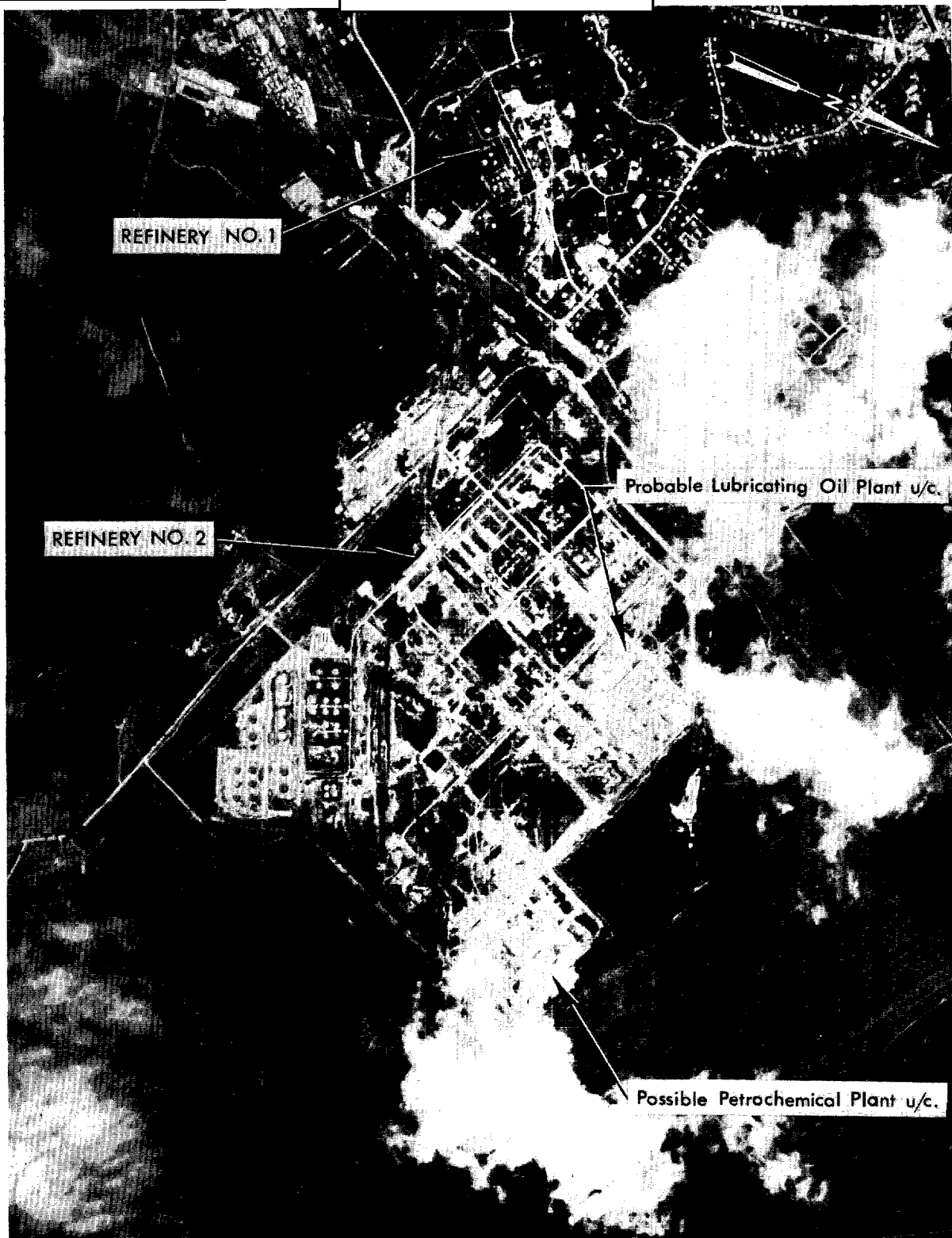


FIGURE 5. NADVORNAYA PETROLEUM REFINERIES, USSR

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FIGURE 6. NADVORNAYA PETROLEUM REFINERIES, USSR

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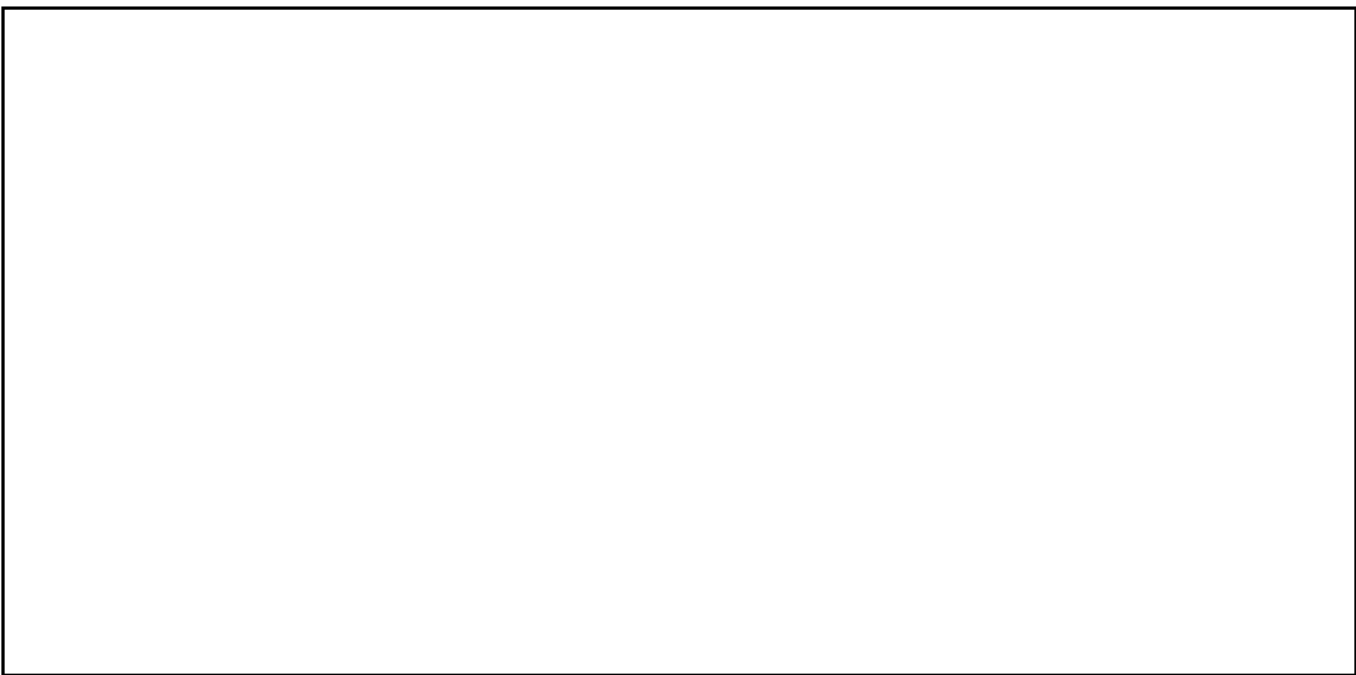
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REFERENCES

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Maps and Charts

ACIC. US Air Target Chart - Series 200, Sheet M0232-25HL, Scale 1:200,000,  
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